<u>REMARKS</u>

Claims 1-20 were pending. All stand rejected. By the above amendment, the applicants have cancelled claims 4 and 14, amended claims 1, 7-11, 17-19 and 20 and added new claims 21-26. Therefore, claims 1-3, 5-13 and 15-26 are pending. The applicants request further examination and reconsideration in view of the amendments above and remarks set forth below.

<u>Amendment to the Specification:</u>

The specification is amended to provide the filing date and serial number of the application identified at page 11, lines 14-18.

<u>Claim Amendments:</u>

Claims 1, 7-11, 17, 19 and 20 are amended to improve their clarity. Particularly, claim 1 is amended to clarify that the first set of ports includes at least one port of each node and the second set of ports includes at least one other port of each node. This amendment is supported by the applicants' specification at least at page 5, line 25 to page 6, line 14. Claim 1 is also amended to clarify that the set of flow requirements specifies communication bandwidth requirements between pairs of the nodes. This amendment is supported by the applicants' specification at least at page 4, line 11 to page 5, line 5. Claim 1 is further amended to clarify that the first interconnect fabric comprises a plurality of communication links and at least one interconnect device coupled to three or more of the communication links. This amendment is supported by the applicants' specification at least at page 6, line 19 to page line, line 27 and Figures 4-6. Claim 11 is amended similarly to claim 1.

Claims 7 and 17 are amended to clarify that forming the second interconnect fabric is performed to meet the flow requirements. This amendment is supported by the applicants' specification at least at page 5, lines 15-18. Claims 8 and 18 are amended to clarify that forming the second interconnect fabric is performed to meet relaxed flow requirements. This amendment is supported by the applicants' specification at least at page 5, lines 18-20. Claims 9 and 19 are amended to be more consistent with claims 1 and 11, respectively. Claims 10 and 20 are amended to clarify that an interconnect device is coupled to a port prior to partitioning so that a plurality of ports of the port-coupled interconnect device are associated with the node.

This amendment is supported by the applicants' specification at least at page 6, lines 5-8.

Double Patenting Rejection:

Claims 1-20 were rejected under the judicially created doctrine of obviousness-type double patenting in view of co-pending application no. 09/707,227.

Because the rejection is provisional, the applicants submit that the rejection need not be overcome unless and until it becomes non-provisional. Moreover, the rejection identifies a similarity between the claims this application and co-pending application no. 09/707,227, but ignores differences in the claims. Further, the claims of this application have been amended above. Therefore, the applicants respectfully request reconsideration of the rejection in view of the differences between the amended claims of this application and those of co-pending application no. 09/707,227.

Rejections under 35 U.S.C. § 102:

Claims 1, 3-11 and 13-20 are rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,776,381 to Barker et al. (hereinafter, "Barker"). Particularly, the examiner relies on col. 29, lines 15-65 of Barker as anticipating independent claim 11.

The applicants respectfully submit that claims 1, 3-11 and 13-20, as amended above, are not anticipated by Barker. Barker is directed toward a network processor useful in a network switch apparatus and methods of operating such a processor. Abstract of Barker. Barker at col. 29, lines 15-65, discloses that the apparatus comprises on a semiconductor substrate, inbound data flow logic responsive to inbound information units (i.e. data units), partitioning logic that divides the information units into predetermined sectors (i.e. smaller data units), inbound system interface logic that receives the sectors, a first input/output port, a first high speed interface logic that passes the sectors from the inbound system logic to the first input/output port, a second input/output port, a second high speed interface logic that receives outbound sectors from the second input/output port, outbound system interface logic that receives sectors from the second high speed interface logic, completion logic that receives sectors from the outbound system interface logic and that forms outbound information units from the sectors (i.e. forms larger data units

from smaller data units) and an embedded processor complex that controls operation of the inbound data flow logic, the partitioning logic, the inbound interface logic, the inbound system interface logic, the outbound system interface logic and the completion logic.

As amended, claim 11 recites a system for providing reliability to a design for an interconnect fabric for communication among a set of nodes. The system comprises a means for storing a set of design information including a set of flow requirements for the interconnect fabric, the set of flow requirements specifying communication bandwidth requirements between pairs of the nodes. The system also comprises a fabric design tool that partitions ports associated with each node into a first set of ports and a second set of ports, the first set of ports comprising at least one port of each node and the second set of ports comprising at least one other port of each node and that generates a first design for the interconnect fabric among the first set of ports, the first design for meeting the flow requirements and the first design specifying a plurality of communication links and at least one interconnect device coupled to three or more of the communication links, and that generates a second design for the interconnect fabric among the second set of ports.

Thus, claim 11 recites several limitations not suggested or disclosed by Barker. For example, claim 11 recites a fabric design tool that generates first and second designs for an interconnect fabric. Barker does not suggest or disclose such a fabric design tool. Rather Barker simply discloses a network switch. The network switch of Barker does not include a design tool and does not perform any design steps. For at least this reason, claim 11 is allowable over Barker.

Also, claim 11 recites a set of flow requirements specifying communication bandwidth requirements between pairs of the ports and that the first design for the interconnect fabric is for meeting the flow requirements. Barker does not suggest or disclose such a feature. Particularly, Barker does not suggest or disclose meeting bandwidth requirements between pairs of nodes, nor generating a design for meeting bandwidth requirements between pairs of nodes. This is another reason why claim 11 is allowable over Barker.

In addition, claim 11 recites that the interconnect fabric is for communication among a set of nodes and that the first design for the interconnect fabric specifies a plurality of communication links and at least one interconnect device coupled to three or more of the communication links. While the network switch of Barker is a type of

interconnect device, Barker does not suggest or disclose a set of nodes, nor does Barker suggest or disclose an interconnect fabric having a plurality of communication links for communication among the nodes. This is yet another reason why claim 11 is allowable over Barker.

Further, claim 11 recites that the set of ports is partitioned into a first set of ports and a second set of ports, that a first design for the interconnect fabric is generated among the first set of ports and a second design for the interconnect fabric is generated among the second set of ports. Barker uses the term "partitioning" at col. 29, line 21; however, Barker refers to dividing data units incoming to the switch of Barker into smaller data units. Thus, Barker does not suggest or disclose partitioning ports associated with nodes into a first and second sets of ports as recited by claim 11, nor does Barker suggest or disclose that a first set of ports comprises at least one port of each node and a second set of ports comprising at least one other port of each node as recited by claim 11. This is yet another reason why claim 11 is allowable over Barker.

Claim 1 also recites several limitations also not suggested or disclosed by Barker, similar to those of claim 11. For example, claim 1 recites forming first and second interconnect fabrics among first and second sets of ports. The switch of Barker does not form any interconnect fabrics. For at least this reason, claim 1 is allowable over Barker.

Also, claim 1 recites forming the first interconnect fabric for meeting a set of flow requirements specifying bandwidth requirements between pairs of nodes. As explained above, Barker does not suggest or disclose meeting bandwidth requirements between pairs of nodes, nor forming an interconnect fabric for meeting bandwidth requirements between pairs of nodes. This is another reason why claim 1 is allowable over Barker.

In addition, claim 1 recites that the interconnect fabric is for communication among a set of nodes and that the first interconnect fabric comprises a plurality of communication links and at least one interconnect device coupled to three or more of the communication links. As explained above, while the switch of Barker is a type of interconnect device, Barker does not suggest or disclose a set of nodes, nor does Barker suggest or disclose an interconnect fabric having a plurality of communication links for communication among the nodes. This is another reason why claim 1 is allowable over Barker.

Further, claim 1 recites partitioning ports associated with each node into a first set of ports and a second set of ports, forming a first interconnect fabric among the first set of ports and forming a second interconnect fabric among the second set of ports. As explained above, Barker uses the term "partitioning" at col. 29, line 21, to describe dividing data units incoming to the switch of Barker into smaller data units. Thus, Barker does not suggest or disclose partitioning ports associated with nodes into a first and second sets of ports as recited by claim 1, nor does Barker suggest or disclose forming a first interconnect fabric among the first set of ports and forming a second interconnect fabric among the second set of ports as recited by claim 1. This is yet another reason why claim 1 is allowable over Barker.

In view of the above, claims 1 and 11 are allowable over Barker. Claims 3 and 5-10 are allowable at least because they are dependent from allowable claim 1 and claims 13 and 15-20 are allowable at least because they are dependent from allowable claim 11.

Rejections under 35 U.S.C. § 103:

Claims 2 and 12 are rejected under 35 U.S.C. § 103 as being unpatentable over Barker in view of U.S. Patent No. 6,253,339 to Tse, et al. (hereinafter "Tse").

As explained above, claims 1 and 11 are allowable over Barker because barker does not suggest or disclose all of the features of claim 1 or claim 11. Tse does not suggest or disclose the features missing from Barker. Therefore, claims 1 and 11 are allowable over Barker and Tse, taken singly or combination. Claims 2 and 12 are allowable over Barker and Tse at least because they are dependent from an allowable base claim 1 or 11.

Further, Tse does not suggest or disclose the limitations of dependent claims 2 and 12. Taking claim 2 as an example, this claim recites that forming the first interconnect fabric comprises generating arrangements of flow sets in response to the flow requirements, determining one or more port violations with respect to the first set of ports for each node and alleviating at least one of the port violations by merging a pair of the flow sets. In contrast, Tse is directed toward correlating alarms from a plurality of network elements. Col. 1, lines 1-28 of Tse, which is relied upon by the examiner as disclosing claims 2 and 12 discloses a system for correlating alarms (which indicate a failure of a network component) by partitioning the alarms into

correlated alarm clusters such that the alarm clusters have a high probability of being caused by the same network fault. Tse is completely unrelated art.

While the claim terminology is interpreted broadly, the interpretation must be reasonable. Here, the examiner appears to interpret the term "port violation" of claim 2 as encompassing a failure of a network component as in Tse and "merging flow sets" of claim 2 as encompassing correlating failures of network components as in Tse. This interpretation plainly unreasonable when claims 2 and 12 are taken as a whole and viewed in light of the applicants' specification. Taken in context, a port violation refers to a condition in which the required number of communication links to a node exceeds the number of available ports, while merging flow sets refers to causing the corresponding flows to pass through the same interconnect device. Therefore, this is another reason why claims 2 and 12 are allowable.

Claims 1-41[sic] are rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,212,568 to Miller et al. (hereinafter "Miller") in view of U.S. Patent No. 5,138,657 to Colton et al. (hereinafter "Colton").

The applicants point out that only claims 1-20 were present in the application at the time the rejection was made in view of Miller and Colton. Therefore, the rejection of claims 21-41 is erroneous. Moreover, the office action at paragraph 17 purports to show limitations of claim 1 as being disclosed by Colton and/or Miller. However, the office action refers to limitations of claim 1 of the *parent* application (Application Serial No. 09/707,227). As explained above in addressing the double-patenting rejection, claim 1 of the instant application is not the same as claim 1 of the parent application. As such, the office action fails to provide basis for the rejection of claim 1 of *this* application in view of Miller and Colton. Similarly, paragraphs 18-33 of the office action refer claims 2-20 of the *parent* application, which are not the same as the correspondingly-numbered claims of this application. As such, the office action fails to provide basis for the rejection of claims 2-20 of *this* application in view of Miller and Colton. Therefore, the applicants respectfully request that the rejection be removed.

Moreover, the claims of this application are allowable over Colton and Miller, taken singly or in combination. Particularly, claim 1 recites partitioning ports associated with each node into a first set of ports and a second set of ports, forming a first interconnect fabric among the first set of ports and forming a second interconnect fabric among the second set of ports. Claim 1 also recites forming the first

interconnect fabric for meeting a set of flow requirements specifying bandwidth requirements between pairs of nodes. In addition, claim 1 recites that the interconnect fabric is for communication among a set of nodes and that the first interconnect fabric comprises a plurality of communication links and at least one interconnect device coupled to three or more of the communication links. Colton and Miller do not disclose all of these features of claim 1. Therefore, claim 1, and claims 2-3 and 5-10, being dependent from an allowable base claim 1, are allowable over Colton and Miller.

Claim 11 recites a fabric design tool that generates first and second designs for an interconnect fabric. Claim 11 also recites a set of flow requirements specifying communication bandwidth requirements between pairs of the ports and that the first design for the interconnect fabric is for meeting the flow requirements. In addition, claim 11 recites that the interconnect fabric is for communication among a set of nodes and that the first design for the interconnect fabric specifies a plurality of communication links and at least one interconnect device coupled to three or more of the communication links. Further, claim 11 recites that the set of ports is partitioned into a first set of ports and a second set of ports, that a first design for the interconnect fabric is generated among the first set of ports and a second design for the interconnect fabric is generated among the second set of ports. Colton and Miller do not disclose all of these features of claim 11. Therefore, claim 11, and claims 12-13 and 15-20, being dependent from an allowable base claim 11, are allowable over Colton and Miller.

<u>New Claims:</u>

New claims 21 and 24 recite that the second set of ports includes fewer ports of at least one node than the first set of ports. This feature is supported by the applicants' specification at least at page 6, lines 9-10 and at page 10, lines 16-18. New claims 21 and 24 are allowable at least because they depend from an allowable base claim 1 or 11.

New claims 22 and 25 recite that the second interconnect fabric comprises a plurality of second communication links and at least one interconnect device coupled to three or more of the second communication links. This feature is supported by the applicants' specification at least at page 9, line 28 to page 12, line 8 and Figures 7-9.

New claims 22 and 25 are allowable at least because they depend from an allowable base claim 1 or 11.
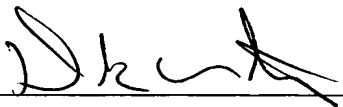
New claims 23 and 26 recite that the relaxed set of flow requirements for the second interconnect fabric comprise reduced bandwidth requirements between pairs of the nodes, the reduced bandwidth requirements being a percentage of the bandwidth requirements between the pairs for the nodes for the first interconnect fabric. This feature is supported by the applicants' specification at least at page 5, lines 15-24. New claims 23 and 26 are allowable at least because they depend from an allowable base claim 1 or 11.

<u>Conclusion:</u>

In view of the above, the applicants submit that all of the pending claims are now allowable. Allowance at an early date would be greatly appreciated. Should any outstanding issues remain, the examiner is encouraged to contact the undersigned at (408) 293-9000 so that any such issues can be expeditiously resolved.

Respectfully Submitted,

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